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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,939	01/15/2002	Akihiko Suehiro	217958US3PCT	4107

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EXAMINER

DUNN, DAVID R

ART UNIT PAPER NUMBER

3616

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/030,939

Applicant(s)

SUEHIRO ET AL.

Examiner

David Dunn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 5-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 5-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 14, 2004 has been entered.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "flange extending vertically outward" (claim 2) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

### ***Claim Objections***

3. Claim 2 is objected to because of the following informalities: in claim 2 it appears that "vertically" should be "horizontally" (as shown in the Figure); the specification should also be corrected (page 7). Appropriate correction is required.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 5, 6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham (4,943,086) in view of Katsuda et al. (6,053,531).

Cunningham discloses a gas generator comprising: a single cylinder housing comprising: an upper lid (16) and a lower lid (14) joined together, the upper lid having a bowl shape including a top plate portion and a side cylinder portion extending downward (see Figure 3), the side cylinder being provided with a plurality of gas discharge holes (74), the lower lid having a bowl shape including a side cylinder portion and a bottom plate having a thickened wall portion (34), the lower lid including an ignitor holding portion including an inner side cylindrical portion (portion surrounding connector 47), said thickened wall portion being formed as a step portion (see Figure 3) around an outer circumference of a base portion of the inner side cylindrical portion, and said ignitor holding portion being formed integrally with the bottom plate on the thickened wall portion; and a plurality of gas generating devices (26) provided around the ignitor. Cunningham also shows a protruding portion protruding from the inner side cylindrical portion. The ratio of L/D of the generator is less than 1.

Cunningham fails to show the ignitor held by caulking or the lids formed of steel.

Katsuda teaches a gas generator comprising upper and lower lids constructed of steel (column 6, line 55 and column 7, line 10) and the ignitor (4) is held in the ignitor holding portion

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(100) by caulking (105- caulking being material used to make tight against leakage; Merriam Webster's Collegiate Dictionary, 10<sup>th</sup> Edition). Katsuda et al. also shows the side cylinder of the upper lid having a flange (19) extending outward. Katsuda also shows a bending portion on the ignitor holding portion.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Cunningham with the teachings of Katsuda et al. to provide a steel housing and caulking in order to provide an inexpensive material and to securely attach the ignitor.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham in view of Katsuda et al. as applied to claim 1 above, and further in view of Cabrera et al. (6,123,359).

The combination of Cunningham and Katsuda is discussed above and fails to show an organic-compound gas generating material.

Cabrera et al. teaches a gas generator comprising an organic compound gas generating agent including a nitrogen containing organic compound (see column 4, lines 40-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Cunningham and Katsuda with the teachings of Cabrera et al. in order to provide an improved gas generant.

### ***Response to Arguments***

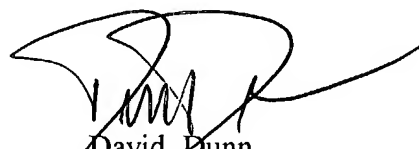
7. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Dunn whose telephone number is 703-305-0049. The examiner can normally be reached on Mon-Thur, alt. Fridays, 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 703-308-2089. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David Dunn  
Primary Examiner  
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